```
music compiler•27/1/67

top=7777

dimension rdb(140)

define error x
                                jsp er
                                flexo x
terminate

define complain x
                                jsp er1
                                flexo x
terminate

0/                              jmp cln
beg,                            lem
                                clc∨lia
                                tyo
                                cli
                                law flexo  af
                                arq
                                jmp nots
                                tyi
                                law 47
                                arq
                                jmp busy
                                law 51
                                arq i
                                jmp rt-2
busy,                           jsp txx
                                text /busy/
                                jmp beg
nots,                           cli∨cla∨hlt∨lai∨clf 7
                                jmp rt-2

stp,                            clc∨lia
                                tyo
                                cli
                                law flexo  af
                                arq
                                jmp nots
                                tyi
                                lai
                                sad (77
                                jmp rt-2
cln,                            law i 51
                                arq
                                law i 20
                                jda fee
                                lac (600000
                                jda ppp
                                law i 520
                                jda fee
                                law i 47
                                arq
                                dsm
                                clc∨hlt
```

```
pnt,    add .
        dac tne                 /corrected for accidentals, key sig. a,
                                /0=4th g below middle c
                                /84=4th g above middle c
        add tll                 /correct for up, down
        sub (10.
        spa
        jmp uat
        sub (63.
        sma
        jmp uat
        add (64.
        dac tne                 /1=3rd f below middle c "bass b5"
                                /63=3rd g above middle c "treble 17"
        lac si                  /calculate articulation
        spa
        jmp tms
        sza i
        jmp tmt
        sub (1
        jmp .+2
tmt,    lac ss                  /get implicit articulation
        dac sv                  /l=0, s=1, e=2, h=3, q=4
        lac et                  /check for embellishments
        spa
        jmp tme
        sza
        jmp emb
        lac sv
        ral 6s
        jmp .+2
s70,    cla
        ior tne
        ral 9s
        ior nft
        jda nc
        lac nl
        dac ltn                 /last note
s72,    lac nft
        adm mm                  /no. of 192nds used in measure
        lac si
        dac sid                 /explicit articulation of last note
        jmp out

cpp,    lac tne                 /copy pitch from previous note
        sza i
        jmp rr                  /was a rest
        lac ton
        jmp s2v

rr,     dzm tne
        lac sh
        ior na
        ior fl
        ior si
        ior et
        sza i
        jmp s70
        error air
        jmp s70
```

```
eor,      error eor
          jmp s70
eit,      error eit
          jmp s70
tme,      error tme
          jmp s70
tms,      error tms
          jmp tmt
uat,      error uat
          dzm tne
          jmp s70
tmf,      error tmf
del,      cla                         /drop a note, suppress mts error
          dap mts
          jmp out
tff,      error tff
          jmp del
ert,      error ert
          jmp del
unc,      error unc
          jmp del
dtu,      error dtu
          jmp del
tic,      error tic
          jmp del

up,       jsp read
          sza i
          jmp up
          lac nf1
up1,      dac t̄ll
          jmp out

down,     jsp read
          sza i
          jmp down
          lac nf1
          cma
          jmp up1

bass,     law 13.
          jda clef

tenor,    law 17.
          jda clef

alto,     law 19.
          jda clef

treble,   law 25.
          jda clef

clef,     0
          jmp out
units,    jsp read
          sza i
          jmp units
          lac nf1
          ral 1s
```

```
                add nf1
                ral 1s
                dac 3u
                clc
                dac irl
                jmp out

        l,      cla
                jda ss
        s,      law 1
                jda ss
        e,      law 2
                jda ss
        h,      law 3
                jda ss
        q,      law 4
                jda ss

        ss,     0
                jmp out
```

```
emb,      law i 49.
          add ton
          sma
          jmp eor
          add (49.
          spq
          jmp eor
          add (mt-1
          dap pmt
          add (nt-mt
          dap pnt
          add (kt-nt
          dap pkt
          lac i pmt
          add i pnt
          add i pkt
          add tll
          add lwr
          sub (10.
          spa
          jmp eor
          sub (63.
          sma
          jmp eor
          add (64.
          dac tnd                   /next lower note
          law 2
          adm pmt
          law 2
          adm pnt
          law 2
          adm pkt
          lac i pmt
          add i pnt
          add i pkt
          add tll
          add upr
          sub (10.
          spa
          jmp eor
          sub (63.
          sma
          jmp eor
          add (64.
          dac tnf                   /next higher note

          lac i et                  /minimum time required
          mul trl
          scr 1s
          lai
          sub nft
          szm
          jmp eit                   /too short
          idx et
          jmp i et                  /dispatch
```

```
m2,         2                           /m - trill
            jsp tr1
            lio tne
            sma
            lio tnf

trn,        lai                         /finish trill
            ral 9s
            ior t1
            jda nc
            lac t1
            cma
            adm t2
            law i 1
            adm t3
            sza i
            jmp s72                     /done
et1,        lac t2
            sal 1s
            add t3
            and (-1
            cliVswp
            div t3                      /calculate time for next note
            hlt
            dac t1
            lac t3                      /number of notes remaining
            rar 1s
tr3,        jmp .

tr1,        dap tr3                     /set up trill
            lac nft
            dac t2
            add trl
            and (-1
            cliVswp
            div trl
            hlt
            sal 1s                      /total number of cycles
            dac t3
            jmp et1

n2,         4                           /n - trill with grace notes
            jsp tr1
            lio tne
            sma
            lio tnf
            sad (1
            lio tnd
            jmp trn

k2,         2                           /o - mordent
            law 3
            dac t3
            law m2+2
            jmp f3
```

```
w2,       2                         /w - inverted trill
          jsp tr1
          lio tne
          spa
          lio tnf
          jmp trn

f2,       4                         /f - full turn
          law 5
          dac t3                    /split time 5 ways
          law n2+2
f3,       lio nft
          dio t2
          dap tr3
          jmp etl

d2,       3                         /d - inverted mordent
          lac tne
          ral 9s
          ior trl
          jda nc
          lac tnd
          ral 9s
          ior trl
          jda nc
          lac trl
          ral 1s
etx,      cma                       /use up remaining time
          add nft
          ral 3s                    ior sv
          ral 6s
          ior tne
          ral 9s
          jda nc
          jmp s72

u2,       4                         /u - turn
          lac tnf
          ral 9s
          ior trl
          jda nc
          lac tne
          ral 9s
          ior trl
          jda nc
          lac tnd
          ral 9s
          ior trl
          jda nc
          lac trl
          ral 1s
          add trl
          jmp etx
```

```
p2,       3                                    /p - mordent
          lac tnf
          rar 8s
          ior trl
          sar 1s
          jda nc
          lac tne
          rar 8s
          ior trl
          sar 1s
          jda nc
          lac tnf
          rar 8s
          ior trl
          sar 1s
          jda nc
          lac trl
          sar 1s
          dac t3
          sal 1s
          add t3
          jmp etx

o2,       3                                    /o - odd numbered trill
          lac nft
          dac t2
          and (-1
          cliVswp
          div trl
          hlt
          sal 1s
          add (1
          dac t3
          law m2+2
          dap tr3
          jmp etl
```

```
trill,    jsp read
          sza i
          jmp trill
          law 177
          and nf2
          sza
          sas nf2
          jmp ertt
          add (rcr-1
          dac qqt
          and nf2
          sza
          jmp ertt
          lac fu
          cli
qqt,      0
          szaVsni i
          jmp dtut
          dac t1
          ral 1s
          lio c1
          sni
          add t1
          dac trl
          jmp out

dtut,     error dtu
          jmp out
ertt,     error ert
          jmp out
```

```
key,        law kt
            dap .+3
            law mt
            dap .+2
            dzm .
            dzm .
            idx .-2
            idx .-2
            sas .+2
            jmp .-5
            dzm mt+49.
            dzm kt+49.
ke2,        jsp read
            sza i
            dzm nf1
            add sh
            add na
            add fl
            sza i
            jmp ke2
            lac na
            sza
            jmp out
            clf 2
            lac fl
            sza i
            stf 2                         /sharp
            sza i
            lac sh
            sub nf1
            spa
            cla
            add nf1
            dac nf2
            law i 1
            szf 2 i
            law i 5
            dac nf
ke3,        lac nf2
            sza i
            jmp out
            lac nf
            dac cn
ke4,        law 7
            adm cn
            sub (49.
            sma
            jmp ke5
            add (kt+49.
            dap .+4
            law i 1
            szf 2
            law 1
            adm .
            jmp ke4
ke5,        law 3
            szf 2
            law 4
            add nf
```

```
sma
sub (7
dac nf
law i 1
adm nf2
jmp ke3
```

```
nc,       0                              /deposit note
          dap cnx
          idx nl
          sad bc
          jmp tof
          lac nc
          dac i nl
cnx,      jmp .

sbc,      0                              /deposit bar
          dap sbx
          law i 1
          adm bc
          sad nl
          jmp tof
          lac sbc
          dac i bc
          idx bl1
          idx bl2
sbx,      jmp .

fee,      0                              /feed
          dap fex
          szs 10
          jmp fex
          cli
          ppa
          isp fee
          jmp fee+2
fex,      jmp .

ppp,      0                              /punch binary word
          dap ppx
          szs 10
          jmp ppx
          lio ppp
          ppb
          ril 6s
          ppb
          ril 6s
          ppb
ppx,      jmp .
```

```
in,     dap inx                                         /read character
in0,    cks
        ril 1s
        spi i
        jmp .-3
        rrb
        iot 1
        sni
        jmp in0
        rir 7s
        spi
        jmp in0
        ril 7s
        lai
        ior (rar
        dac .+2
        law 2525
        0
        sma
        jmp ilp
        law 77
        and .-4
inx,    jmp .

ilp,    jsp txx
        text /ilp
/
        jmp in0

er,     clf 3                                           /error - print syllable in r
        jmp .+2
er1,    stf 3                                           /error
        dap erx
        szf 6
        jmp er3                       /entire line already in
        lac poi                       /read in rest of line
        dap f12
        lac ch
erk,    sad (77
        jmp er3
        idx f12
        sad (dac rdb+140
        jmp bof
        jsp in
        dac i f12
        jmp erk
er3,    skp .
        jmp erq
        jsp red
        jsp txx
        text /
To err is human---to forgive, divine.

/
```

```
          cla
          dap er3
          jsp blk
erq,      szf 5
          jmp erm                  /syllable already printed
          szf 3
          szf 6 i
          jmp .+2
          jmp erm                  /call to er1 and line has been printed
          law rdb
          dap fl2
erl,      szf 3
          jmp ern
          lac fl2
          sad fl1
          jsp red
          lac fl2
          sad poi
          jsp blk
ern,      lio i fl2
          tyo
          idx fl2
          lai
          sas (77
          jmp erl
erm,      stf 5
          stf 6
          lio (36
          tyo
          szf 3
          jsp red
          szf 3 i
          jsp blk
erx,      lac .
          lio .+3
          rcl 6s
          tyo
          sas .
          jmp .-3
          clcVlia
          tyo
          idx erx
          jsp blk
          jmp i erx
```

```
bof,        jsp txx
            text /
Source line has too many characters.
/
            law rdb
            dap poi
            lio i poi
            tyo
            idx poi
            sas (dac rdb+100
            jmp .-3
            clcVlia
            tyo
            jmp beg

tof,        jsp txx
            text /
Table overflow. Subdivide source text.
/
            jmp beg

red,        dap rx
            law 35
            jmp .+3
blk,        dap rx
            law 34
            sad clr
rx,         jmp .
            dac clr
            lia
            tyo
            jmp rx
clr,        34

txx,        dap txy
            lio i txy
            idx txy
            lac (607600
            rcl 6s
            sad (lai
txy,        jmp .
            sad .+2
            jmp txx+1
            swp
            tyo
            lia
            jmp txy-3
```

```
read,   dap rex                          /read syllable and terminat
        law 77
        sas ch
        jmp re1
        law rdb-1                /if new line, reset buffer
        dap poi
        clf 6                    /on if line already in buffer
re1,    law 1
        add poi
        dap fl1                  /points to first character of syllable
        law 40                   /current value of dot
        dac fc
        law 100                  /dots accumulated in fu
        dac fu
        dzm tf1
        dzm tf2
        law tf1
        dap tp
        dzm cn                   /counts non-numeric characters
        law nf1
        dap np
        dzm a1                   /clear all counters
        dzm b1
        dzm c1
        dzm g1
        dzm r1
        dzm cm
        dzm f1
        dzm na
        dzm sh
        dzm si
        dzm upr
        dzm lwr
        dzm et
        clf 4                    /on if reading comment
        clf 5                    /on if number partially entered
rlp,    idx poi
        sad (dac rdb+140
        jmp bof
        szf 6
        jmp in1                  /character already in
        jsp in
poi,    dac .
        sad (72
        clf 4
        szf 4
        jmp rlp                  /comment
        dac ch
        add (dtb
        dap dtp
```

```
dtp,      lio .
          spi i
          jmp tp-1
          xct i dtp
          jmp ema                 /articulation or embellishment
          lio i dtp               /i,j,y, or z
          rir 2s
          law upr
          spi
          law lwr
          dap emu
          law 1
          and i dtp
          sza i
          law i 1
emu,      adm .
          jmp tp

ema,      spa
          jmp em
          lio si
          dac si
          sni
          jmp tp
          clc                     /too many
          dac si
          jmp tp

em,       lio et
          dap et
          sni
          jmp tp
          clc                     /too many
          dac et
          jmp tp

          idx i dtp               /count
tp,       lac .
          lio ch
          rcr 6s
          dac i tp                /pack
          idx cn
          sad (3
          idx tp
          szf 5
          idx np
          jmp rlp-1

in1,      lac i poi
          jmp poi+1
```

```
dtb,          jmp sep                     /space
              repeat 11,jmp n
              jmp rlp
              jmp rlp                     /stop code
              jmp rlp
              jmp rlp
              jmp rlp
              jmp rlp
              jmp n                       /0
              jmp sep                     /slash
              law 2                       /s - stacatto
              jmp tp                      /t
              law i 7777-u2               /u - turn
              jmp tp
              law i 7777-w2               /w - inverted trill
              jmp xe                      /x
              sni 3                       /y - raise lower note
              sni 2                       /z - depress lower note
              jmp rlp
cm,           0                           /comma
              jmp rlp
              jmp rlp
              jmp sep                     /tab
              jmp rlp
              jmp rlp
              sni 0                       /j - depress upper note
              law i 7777-k2               /k - mordent
              law 1                       /l - legato
              law i 7777-m2               /m - trill
              law i 7777-n2               /n - trill with grace notes
              law i 7777-o2               /o - odd numbered trill
              law i 7777-p2               /p - shake
              law 5                       /q - quarter
r1,           0                           /r - rest
              jmp rlp
              jmp rlp
fl,           0                           /- - flat
na,           0                           /) - natural
              jmp rlp
sh,           0                           /( - sharp
              jmp rlp
a1,           0                           /a - above
b1,           0                           /b - below
c1,           0                           /c - triplet
              law i 7777-d2               /d - inverted mordent
              law 3                       /e - normal articulation
              law i 7777-f2               /f - full turn
g1,           0                           /g - grace note
              law 4                       /h - half
              sni 1                       /i - depress upper note
              jmp rlp
              jmp dot                     /dot
              jmp upc                     /upper case
              jmp rlp
              jmp rlp
              jmp sep                     /car. ret.
dtb+100,
tf1,        0                             /text of pseudo-instruction
tf2,        0
nf1,        0                             /first numeric field
nf2,        0

n,          lac .                         /digit
            sad np
            jmp np1
            szf 5 i
            dzm i np
np,         lac .
            ral 2s
            add i np
            ral 1s
            lio ch
            rir 5s
            spi i
            add ch
            dac i np
            dac nf2
np1,        stf 5
            jmp rlp

upc,        stf 4                         /upper case
            jmp rlp

sep,        szf 5                         /space, tab, c.r., or slash
            idx np
            lac np
            sub (lac nf1
            dac nf                        /number of numeric fields
            clf 5                         /on if syllable is printed
rex,        jmp .

dot,        lac fc                        /dot
            sma
            adm fu
            spa
            dzm fu                        /dot error
xe,         lac fc                        /x
            sma
            rar 1s
            dac fc
            jmp tp

fl1,        dac .                         /points to beginning of syllable
fl2,        dac .                         /pointer used by err
constants
```

```
nt,         /main pitch table
decimal
0           2                    4
5           7                    9           10
12          14                   16
17          19                   21          22
24          26                   28
29          31                   33          34
36          38                   40
41          43                   45          46
48          50                   52
53          55                   57          58
60          62                   6465        67                       69
                                                         0        7
72          74                   76
77          79                   81          82
84
octal
kt,         .+50./               /key signature table
mt,         .+50./               /status of current measure
variables
not,
start beg
```

```
        jmp ng+1
        cma
        adm nft                 /rob it
        sub (6
        sma
        jmp ng
        lac nft                 /only 1/32nd left
        sub rob
        sma
        jmp ng                  /ok anyway
        error itg
        lac nfp                 /unrob it
        dac nft
ng,     dzm rob
        lac r1
        sza
        jmp rr                  /rest
        lac nf
        sza i
        jmp cpp                 /copy pitch
        lac a1
        sub b1
        dac a1
        ral 1s
        add a1
        ral 2s
        add nf1                 /pitch corrected for a,b
        add clef
        dac ton                 /0=7th leger line below bass clef
                                /49=space above 7th leger line above tre

        spa
        jmp uat
        sub (50.
        sma
        jmp uat
s2v,    law mt
        add ton
        dap pmt
        add (nt-mt
        dap pnt
        add (kt-nt
        dap pkt
        lac sh
        add fl
        add na
        sza i
        jmp pmt                 /no accidentals given
        cla
        sas sh
        sad fl
        jmp s2w
        error nor
        jmp pmt
s2w,    lac sh
        sub fl
pkt,    sub .
        dac i pmt               /save it in mt for rest of measure
        jmp pmt+1
pmt,    lac .
        add i pkt
        sza
        jmp gr                  /grace note
16,     law 177
        and nf2                 /check duration
        sza
        sas nf2
        jmp ert
        add (rcr-1
        dac qq
        and nf2
        sza
        jmp ert
        lac fu
        cli
qq,     0
        sza∨sni i
        jmp dtu                 /dot underflow
        dac tim                 /duration in 64ths with dots
        ral 1s
        lio c1
        sni
        add tim
        dac nfp
        dac nft                 /duration in 192nds with dots and triple
        dio ccc                 /save triplet status
        lac g1
        sza i
        jmp nr
gn,     lac nft                 /grace note
        adm rob
        jmp ng+1

15,     lac c1                  /comma, get previous time
        ior ccc
        lia
        lac tim                 /previous time in 64ths
        spa
        jmp unc                 /undefined
        ral 1s
        sni
        add tim
        dac nfp
        dac nft
        law 100
        sas fu
        jmp tic                 /no dots allowed
        lac g1
        sza
        jmp gr                  /grace note with comma
        jmp ng+1

gr,     law 1
        sas nf
        jmp 16                  /if two fields, use given duration
        lac (rcr 5s
        dac qq
        jmp qq-2                /make it a 32nd

nr,     lac rob                 /not grace note or comma
        sza i
```

```
          lac nf1
          dac bl2                    /permit alternate numbering
          law 600
          jmp bb2

ff1,      law 1                      /a note
          sub cm
          sma
          jmp ff2
          law 1
          dac cm
          error tmc
ff2,      law 1
          sub g1
          sma
          jmp ff3
          error tmg
          law 1
          dac g1
ff3,      law 1
          sub r1
          sma
          jmp ff4
          error tmr
          law 1
          dac r1
ff4,      lac r1
          and g1
          sza
          jmp tmf
          law 2
          sub cm
          sub r1
          sub nf
          spa
          jmp tmf
          lac r1
          sza i
          jmp l7
          lac sid                    /rest
          szm
          jmp l7
          lac ltn                    /no explicit articulation on last note
          spa
          jmp l7                     /last note was in this measure
          lio i ltn
          cla
          ril 3s
          rcr 3s
          dio i ltn                  /make preceding note legato
l7,       lio cm
          sni i
          jmp l5
          law i 2                    /no comma
          add r1
          add g1
          add nf
          spa
          jmp tff                    /must have 2 of r,g,number
          lac g1
```

```
out,        law 21
            sas ch
            jmp lup
            jsp dun
            jmp lu1

dun,        dap dux
            lio mm
            sni
dux,        jmp .
            lac rob
            sza i
            jmp du2
            complain itg
du2,        lac (600000
            jda nc
            lac lmb
            jda sbc
            lac nl1
            sza i
            jmp du1
            add (1
            dac nl3
            dzm nl1
            lac nl
            dac nl2
            lac bc
            dac bcs
            lac mm
            sub mms
            dac mms
du1,        law i not-1
            add nl
            dac lmb
            lac mm
            sub 3u
            sza i
            jmp dux
            spa
            jmp mts
            complain mtl
            jmp dux
mts,        skp .
            jmp dux
            complain mts
            jmp dux
ff,         lac cn
            sza
            jmp ff1                       /other characters present
            lac nf1                       /bar label
            sad bl1                       /current bar
            jmp bb1
            sad bl2                       /alternate bar
bbs,        skp .                         /skip if alternate bar permitted
            jmp bbl
bb1,        dac bl1
            cla
bb2,        dap bbs
            jmp out
bbl,        error bbl
```

```
                        jmp lu1

tempo,                  jsp read
                        sza i
                        jmp tempo
                        lac nf1
                        ior (700000
                        jda nc
                        jmp out

pp,                     cla
                        jmp f+1
p,                      law 1
                        jmp f+1
mf,                     law 2
                        jmp f+1
f,                      law 3
                        ior (500000
                        jda nc
                        jmp out

end,                    jsp dun
                        lac (600000
                        dac i nl     /make sure notes end with 60
                        cla
                        jda nc       /note/bar marker
                        lac bc
                        sad (top+1
                        jmp stp      /no music
                        law not
                        dac t3       /punch pointer
                        idx nl
                        sub bc
                        add (top-not+1           /total size of i
 p41,                   jda ppp
                        law i 6
                        jda fee
                        law i 104
                        dac t1       /block count
                        dzm t2       /chacksum
p42,                    lac i t3
                        jda ppp
                        lac i t3
                        adm t2
                        idx t3
                        sad (top+1
                        jmp p43      /done
                        sad nl
                        lac bc       /change from notes to bars
                        dac t3
                        isp t1
                        jmp p42
                        lac t2
                        jmp p41      /punch checksum
p43,                    lac t2
                        jda ppp      /punch last checksum
                        law i 20
                        jda fee
                        jmp stp
```

```
                                    jda nc
                                    lac (600000
                                    jda nc
                                    jmp irh
copy,                               jsp dun
                                    jsp read
                                    sza i
                                    jmp .-2
                                    cla
                                    dap bbs     /forbid alternate labels
                                    law i 1
                                    add bl1
                                    sub nf1
                                    spa
                                    jmp blc
                                    add bc
                                    dac cbh
                                    lac nf1
                                    dac t1
                                    jsp read
                                    sza i
                                    jmp .-2
                                    law i 2
                                    add bc
                                    add bl1
                                    sub nf1
                                    dac nf2
                                    law 1
                                    add nf1
                                    sub t1
                                    spq
                                    jmp brc
                                    law i not-1
                                    add nl
                                    sad lmb
                                    jmp cl
                                    law not     /stray tempo or loudness com
                                    add i cbh
                                    dap .+1
                                    lac .
                                    jda nc
                                    sad (600000
                                    jmp .+3
                                    idx .-4
                                    jmp .-5
                                    lac lmb
                                    jmp cl+1
cl,                                 lac i cbh
                                    jda sbc
                                    law i 1
                                    adm cbh
                                    sas nf2
                                    jmp cl
                                    jmp lu0
blc,                                error blc
                                    jsp read
                                    sza i
                                    jmp .-2
                                    jmp lu1
brc,                                error brc
```

```
ttb,            text /s     /       jmp s
                text /e     /       jmp e
                text /l     /       jmp l
                text /h     /       jmp h
                text /q     /       jmp q
                text /sert  /       jmp rest
                text /yek   /       jmp key
                text /pocy  /       jmp copy
                text /inust /       jmp units
                text /pp    /       jmp pp
                text /p     /       jmp p
                text /fm    /       jmp mf
                text /f     /       jmp f
                text /metop /       jmp tempo
                text /dne   /       jmp end
                text /irtll /       jmp trill
                text /sabs  /       jmp bass
                text /ertelb/       jmp treble
                text /netro /       jmp tenor
                text /tlao  /       jmp alto
                text /pu    /       jmp up
                text /wodn  /       jmp down
                text /epon  /       jmp open
                text /olces /       jmp close
ttn,
rest,           jsp dun
                jsp read
                sza i
                jmp .-2
                lac nf1
                sza i
                jmp lu1
                cma
                dac nf1
                lac irl
                sma
                jmp irm     /rest already exists
                law i not-1
                add nl
                dac irl     /location of rest
                lac 3u
                jda nc
                lac (600000
                jda nc
irh,            lac lmb
                jmp irn+1
irm,            law i not-1
                add nl
                sas lmb
                jmp irk
irn,            lac irl
                jda sbc
                isp nf1
                jmp irn
                jmp lu0
irk,            law not     /stray tempo or loudness com
                add irl
                dap .+1
                lac .
```

```
cl3,            lac (600000
                jda nc
                lac lmb
                jda sbc
cl4,            law not
                add lmb
                dac t1
                dzm nl2
                law i not-1
                add nl
                dac lmb
                lac t1
cl5,            sad t2
                jmp cl6
                lac i t1
                jda nc
                idx t1
                jmp cl5
cl6,            lac bcs
                sad t3
                jmp out
                law i 1
                adm bcs
                lac i bcs
                jda sbc
                jmp cl6
cl1,            lac nl3
                sas nl2
                jmp rtc
                jmp cl4
cls,            lac nl1
                sza
                jmp rtc
                error nop
                dzm nl1
                jmp out
rtc,            error rtc
                jmp out
clt,            spa
                jmp .+4
                error rtl
                jmp cl2
                xct mts
                jmp cl2
                error rts
                jmp cl2
```

```
open,                   clc
                        dac ltn
                        lac nl1
                        ior nl2
                        sza
                        jmp tmo
                        law i not-1
                        add nl
                        sas lmb
                        jmp op1
                        lac nl      /at beginning of measure
                        dac nl2
                        dac nl3
                        lac bc
                        dac bcs
                        dzm mms
                        jmp out
op1,                    lac nl
                        dac nl1
                        lac mm
                        dac mms
                        jmp out
tmo,                    error tmo
                        jmp out

close,                  clc
                        dac ltn
                        lac nl2
                        sza i
                        jmp cls
                        lac bc
                        dac t3
                        law 1
                        add nl
                        dac t2
                        lac mm
                        add mms
                        sza i
                        jmp cl1
                        sub 3u
                        sza
                        jmp clt
cl2,                    lac nl3
                        sad nl2
                        jmp cl3
                        lac i nl3
                        jda nc
                        idx nl3
                        jmp cl2
```

```
                                        sma
                                        jmp nps
                                        law ttb
                                        dap sp
sp,                                     lac .
                                        sas tf1
                                        jmp ng1
                                        idx sp
                                        lac i sp
                                        sas tf2
                                        jmp ng1+1
                                        idx sp
                                        jmp i sp
ng1,                                    idx sp
                                        idx sp
                                        idx sp
                                        sas (lac ttn
                                        jmp sp
nps,                                    error nps
                                        jmp out
```

```
        law 600
        dap er3
        cla
        dap bbs     /on if alternate bar label p
        clc
        dac tim     /previous time=undefined
        law 1
        dac bl1
        dac bl2
        law 77
        dac ch      /initial separator=c.r.
        lac (top+1
        dac bc
        law not-1
        dac nl
        law 32.x6
        dac 3u      /units=32
        clc
        dac lrl     /location of a rest
        law 6
        dac trl     /trill time=32nd
        law 25.
        dac clef    /clef=treble
        law 2
        dac ss      /normal articulation=e
        dzm nl1     /repeat indicators
        dzm nl2
        dzm tll     /up/down=0
        law kt      /key=)
        dap .+1
        dzm .
        idx .-1
        sas .+2
        jmp .-3
        dzm kt+49.
lu0,    law i not-1            /set lmb to poin
        add nl
        dac lmb
lu1,    dzm mm      /time used in this measure
        clc
        dac ltn     /last note in this measure
        law 600
        dap mts
        law mt      /clear accidentals
        dap .+1
        dzm .
        idx .-1
        sas .+2
        jmp .-3
        dzm mt+49.
        dzm rob     /time robbed for grace notes
lup,    jsp read
        add cm
        sza
        jmp ff      /numeric fields or comma pre
        lac cn
        sza i
        jmp out     /nothing
        sub (7      /pseudo-instruction
                                    rrb                     iot 1
rt,                                 law rdb
                                    dap poi
                                    dap f12
                                    jsp in
                                    sad (13
                                    jmp .-2
                                    dac ch
                                    dac i poi
                                    idx poi
                                    sad (dac rdb+140
                                    jmp rt1
                                    law 21
                                    sas ch
                                    jmp rt+3
rt1,                                lio i f12
                                    tyo
                                    idx f12
                                    sas poi
                                    jmp rt1
                                    law 21
                                    sas ch
                                    jmp rt
                                    clcVlia
                                    tyo
                                    law i 6301
                                    arq
```